

# 1<sup>st</sup> Workshop on Memory-Centric Computing: Logistics

Geraldo F. Oliveira

<https://geraldofojunior.github.io>

ASPLOS 2025

30 March 2025

# Brief Self Introduction

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## ■ Geraldo F. Oliveira

- Researcher @ SAFARI Research Group since November 2017
- Very soon, I will defend my PhD thesis, advised by Onur Mutlu
- **I am in the job market for industry positions**
- <https://geraldofojunior.github.io/>
- [geraldofojunior@gmail.com](mailto:geraldofojunior@gmail.com) (Best way to reach me)
- <https://safari.ethz.ch>

## ■ Research in:

- Computer architecture, computer systems, hardware security
- Memory and storage systems
- Hardware security, safety, predictability
- Fault tolerance
- Hardware/software cooperation
- ...

# Get the Materials Online

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<https://events.safari.ethz.ch/asplos25-MCCSys/doku.php>

# Organizers

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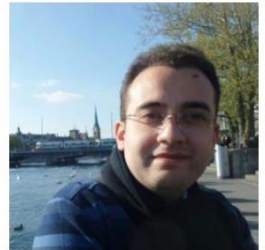
## ■ **Geraldo F. Oliveira**

- Researcher @ SAFARI Research Group since November 2017
- I am in the job market for industry positions
- <https://geraldofjunior.github.io/>



## ■ **Dr. Mohammad Sadrosadati**

- Senior Researcher and Lecturer, SAFARI @ ETH Zürich
- <https://scholar.google.com/citations?user=-mHpDvAAAAAJ>



## ■ **Ataberk Olgun**

- PhD Candidate, SAFARI Research @ ETH Zürich
- <https://ataberkolgun.com/>



## ■ **Prof. Onur Mutlu**

- Professor of Computer Science at ETH Zurich
- <https://people.inf.ethz.ch/omutlu/index.html>



# Agenda Tutorial (Morning)

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- **Prof. Onur Mutlu:**  
Recent Advances in Processing-in-DRAM
- Processing-Near-Memory Systems: Developments from Academia & Industry
- Programming Processing-Near-Memory Systems
- **Coffee Break**
- Processing-Using-Memory Systems for Bulk Bitwise Operations
- **Dr. Mohammad Sadr:**  
Processing-Near-Storage & Processing-Using-Storage
- Infrastructure for PIM Research & Research Challenges
- **Lunch**

# Agenda Workshop (Afternoon)

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- **Hamid Farzaneh (TU Dresden):**  
CINM (Cinnamon): A Compilation Infrastructure for Heterogeneous Compute In-Memory and Compute Near-Memory Paradigms
- **Theocharis Diamantidis (National Technical University of Athens):**  
Harnessing PIM Techniques for Accelerating Sum Operations in FPGA-DRAM Architectures
- **Krystian Chmielewski (Huawei Warsaw Research Center):**  
Pitfalls of UPMEM Kernel Development
- **Coffee Break**
- **Yintao He (UCAS):**  
PAPI: Exploiting Dynamic Parallelism in Large Language Model Decoding with a Processing-In-Memory-Enabled Computing System
- **Yufeng Gu (University of Michigan):**  
PIM Is All You Need: A CXL-Enabled GPU-Free System for Large Language Model Inference
- **Dr. Christina Giannoula (University of Toronto):**  
PyGim: An Efficient Graph Neural Network Library for Real Processing-In-Memory Architectures

# Next PIM Workshops (I)

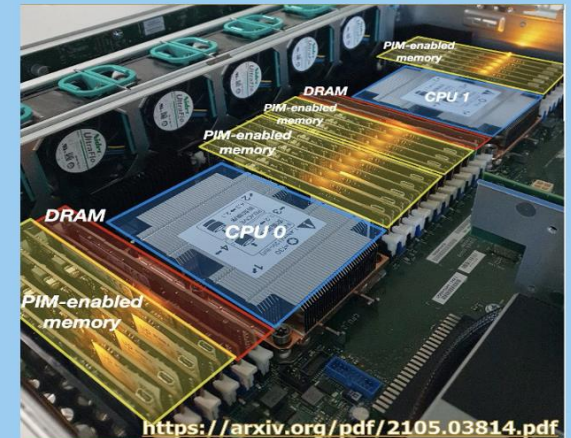
## ICS 2025 - 2<sup>nd</sup> Workshop on Memory-Centric Computing Systems

Sunday, June 8<sup>th</sup>, Salt Lake City, USA

**Organizers:** Geraldo F. Oliveira, Dr. Mohammad Sadrosadati,  
Ataberk Olgun, Professor Onur Mutlu

**Program:** <https://events.safari.ethz.ch/ics25-MCCSys/doku.php>

Overview of PIM | PIM taxonomy  
PIM in memory & storage  
Real-world PNM systems  
PUM for bulk bitwise operations  
Programming techniques & tools  
Infrastructures for PIM Research  
Research challenges & opportunities



<https://events.safari.ethz.ch/ics25-MCCSys/doku.php>

# Next PIM Workshops (II)

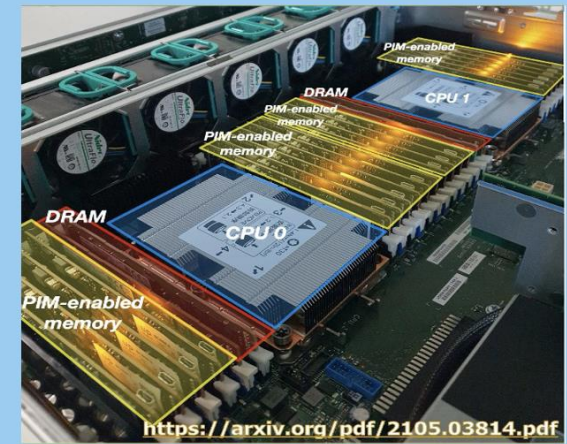
## ISCA 2025 - 3<sup>rd</sup> Workshop on Memory-Centric Computing Systems

Saturday, 21<sup>st</sup> June, 2025, Tokyo, Japan

**Organizers:** Geraldo F. Oliveira, Dr. Mohammad Sadrosadati,  
Ataberk Olgun, Professor Onur Mutlu

**Program:** <https://events.safari.ethz.ch/isca25-MCCSys/doku.php>

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